

In the Claims:

1. (Currently Amended) A method comprising:
determining, using one or more computers, an original subset of a plurality of nodes, the original subset comprising nodes currently unallocated to a job, each node in the plurality of nodes comprising a switching fabric integrated to a card and at least two processors integrated to the card, the switching fabric allowing node to node communication during execution of a job;
selecting a job from a job queue; and
executing the selected job using one or more processors of one or more nodes of the original subset.
2. (Previously Presented) The method of Claim 1, wherein selecting the job comprises selecting the job from the job queue based on priority, the selected job comprising dimensions not greater than a topology of the original subset.
3. (Previously Presented) The method of Claim 2, wherein selecting the job from the job queue based on priority comprises:
sorting the job queue based on job priority;
selecting a first job from the sorted job queue;
determining dimensions of the first job with the topology of the original subset; and
in response to the dimensions of the first job being greater than the topology of the original subset, selecting a second job from the sorted job queue.
4. (Previously Presented) The method of Claim 2, wherein the dimensions of the first job are based, at least in part, on one or more job parameters and an associated policy.
5. (Previously presented) The method of Claim 2, further comprising dynamically allocating a job space from the original subset based, at least in part, on the dimensions of the job, wherein executing the selected job comprises executing the selected job using the job space.

6. (Previously Presented) The method of Claim 1, wherein the plurality of nodes comprises a first plurality and the method further comprises:

determining that dimensions of the selected job are greater than a topology of the first plurality;

selecting one or more nodes from a second plurality of nodes, each of the nodes in the second plurality of nodes comprising a switching fabric integrated to a card and at least two processors integrated to the card; and

adding the nodes selected from the second plurality to the original subset to satisfy the dimensions of the selected job.

7. (Previously Presented) The method of Claim 6, further comprising returning the nodes selected from the second plurality to the second plurality.

8. (Previously Presented) The method of Claim 1, further comprising:
determining that a second job that was executing on a second subset of the plurality of nodes has failed;

adding the second subset to the original subset; and

adding the failed job to the job queue.

9. (Previously presented) Software embodied in one or more tangible computer-readable media and when executed operable to:

determine an original subset of a plurality of nodes, the original subset comprising nodes currently unallocated to a job, each node in the plurality of nodes comprising a switching fabric integrated to a card and at least two processors integrated to the card, the switching fabric allowing node to node communication during execution of a job;

select a job from a job queue; and

execute the selected job using one or more processors of one or more nodes of the original subset.

10. (Previously Presented) The software of Claim 9, wherein the software being operable to select the job comprises the software being operable to select the job from the job queue based on priority, the selected job comprising dimensions not greater than a topology of the original subset.

11. (Previously Presented) The software of Claim 10, wherein the software being operable to select the job from the job queue based on priority comprises the software being operable to:

- sort the job queue based on job priority;
- select a first job from the sorted job queue;
- determine dimensions of the first job with the topology of the original subset; and
- in response to the dimensions of the first job being greater than the topology of the original subset, select a second job from the sorted job queue.

12. (Previously Presented) The software of Claim 10, wherein the dimensions of the first job are based, at least in part, on one or more job parameters and an associated policy.

13. (Previously presented) The software of Claim 10, further dynamically allocate a job space from the original subset based, at least in part, on the dimensions of the job, wherein the software being operable to execute the selected job comprises the software being operable to execute the selected job using the dynamically allocated job space.

14. (Previously Presented) The software of Claim 9, wherein the plurality of nodes comprise a first plurality, the software being further operable to:

- determine that dimensions of the selected job are greater than a topology of the first plurality;

- select one or more nodes from a second plurality, each of the second nodes comprising an integrated fabric; and

- add the selected second nodes to the original subset to satisfy the dimensions of the selected job.

15. (Previously Presented) The software of Claim 14, further operable to return the second nodes to the second plurality.

16. (Previously Presented) The software of Claim 9, further operable to:
determine that a second job that was executing on a second subset in the plurality of nodes has failed;

add the second subset to the original subset; and
add the failed job to the job queue.

17. (Previously presented) A system comprising:
a plurality of nodes, each node comprising a switching fabric integrated to a card and at least two processors integrated to the card, the switching fabric allowing node to node communication during execution of a job; and

a management node operable to:

determine an original subset of the plurality of nodes, the original subset comprising nodes currently unallocated to a job;

select a job from a job queue; and

execute the selected job using one or more processors of one or more nodes of the original subset.

18. (Previously Presented) The system of Claim 17, wherein the management node being operable to select the job comprises the management node being operable to select the job from the job queue based on priority, the selected job comprising dimensions not greater than a topology of the original subset.

19. (Previously Presented) The system of Claim 18, wherein the management node being operable to select the job from the job queue based on priority comprises the management node being operable to:

sort the job queue based on job priority;

select a first job from the sorted job queue;

determine dimensions of the first job with the topology of the original subset; and

in response to the dimensions of the first job being greater than the topology of the original subset, select a second job from the sorted job queue.

20. (Previously Presented) The system of Claim 18, wherein the dimensions of the first job are based, at least in part, on one or more job parameters and an associated policy.

21. (Previously presented) The system of Claim 18, wherein the management node is further operable to dynamically allocate a job space from the original subset based, at least in part, on the dimensions of the job, wherein the management node being operable to execute the selected job comprises the management node being operable to execute the selected job using the dynamically allocated job space.

22. (Previously Presented) The system of Claim 17, wherein the plurality of nodes comprise a first plurality, the management node being further operable to:

determine that dimensions of the selected job are greater than a topology of the first plurality;

select one or more nodes from a second plurality, each of the second nodes comprising a switching fabric integrated to a card and at least two processors integrated to the card; and

add the selected second nodes to the original subset to satisfy the dimensions of the selected job.

23. (Previously Presented) The system of Claim 22, wherein the management node is further operable to return the second nodes to the second plurality.

24. (Previously Presented) The system of Claim 17, wherein the management node is further operable to:

determine that a second job that was executing on a second subset in the plurality of nodes has failed;

add the second subset to the original subset; and

add the failed job to the job queue.

25-26 (Canceled)